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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/779,823	02/18/2004	Cheng-Qun Gui	1857.2610000	6816
26111	7590	04/24/2006	EXAMINER	
STERNE, KESSLER, GOLDSTEIN & FOX PLLC 1100 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			RUTLEDGE, DELLA J	
			ART UNIT	PAPER NUMBER
			2851	

DATE MAILED: 04/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/779,823	GUI ET AL.
	<b>Examiner</b>	<b>Art Unit</b>
	D. Rutledge	2851

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 17 November 2005.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-4 and 11-28 is/are rejected.
- 7) Claim(s) 5-10 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 18 February 2004 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____.   |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>11/05</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|  | 6) <input type="checkbox"/> Other: _____.                                   |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1, 3, 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Schlafer (US 4,023,226).

The reference disclosed an lithographic apparatus having an illumination system (12, 18, 22, 38, 46); a patterning means 74 having multiple sub-patterns; a rotating radiation distributor 38; projection system 48, 62; substrate table for substrate 78. The distributor has a duty cycle determined by its rotating speed and projects sequential sub-patterns onto the substrate 78. In column 5, lines 22 - 42, a variation of the apparatus is suggested in which parallel systems each having a different pattern are arranged about a rotational axis to increase the scanning process. Each pattern would be used to exposure a portion of the substrate and each exposure would be forming its own channel.

### ***Claim Rejections - 35 USC § 103***

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1 – 4, 11 – 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marcy (US Pat. No. 3,7732,796).

Marcy has a lithographic apparatus, see Figs. 1 and 6, having an illumination system (laser 6, modulator 7, deviator 8; patterning means 11 in Fig. 1 and  $p_n$  in fig. 6; distribution device 8, 12; projection system 0, 10; substrate table 2 having substrate 1. The deviator serves as a light guide; but using additional guides to improve resolution, especially in the Fig. 6 arrangement would motivate one of ordinary skill to adapt the arrangement to use liquid light guides. Fig. 1 shows two radiation sources, laser 6 and source 13. The figures do not necessarily shows all the actual components in the apparatus, one of ordinary skill in the art would include other components to improve the uniformity of the beam and improve resolution. (claims 1, 3, 14 – 18, 25 - 26)

In Fig. 6, a plurality of patterns  $p_n$  are exposed through different channels onto the substrate 1. The arrangement uses beam splitters in the form of partial mirrors and a final fully reflective mirror  $M_n$ . The arrangement uses the common element O to project the patterns onto the substrate. (claims 2, 4, 13, 19 – 21, 24)

The deviator 8 has individual element that are used to deflect the beam – Claim 11  
The arrangement in Fig. 6 shows only one projection system, but one of ordinary skill in the art would be motivated to add additional systems as the number of patterns increase – claims 12, 23

The reference does not disclose using a individually controlled elements as a patterning means, but doing so could reduce the number of components in the Fig. 6 arrangement. For instance, the shutter R could be eliminated with such an arrangement since the controlled elements could be used to close off the path to the light. Claim 22 The apparatus in the figures performs the device manufacturing method claimed – claim 28

***Allowable Subject Matter***

4. Claims 5 – 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
5. The following is a statement of reasons for the indication of allowable subject matter: the prior art does not disclose at least the rotating reflector and driver arrangement.

***Response Data***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to D. Rutledge whose telephone number is (571) 272-2127. The examiner can normally be reached on Mon - Thurs, 6:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on (571) 272-2258. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



D. Rutledge  
Primary Examiner  
Art Unit 2851

dr  
4/17/06